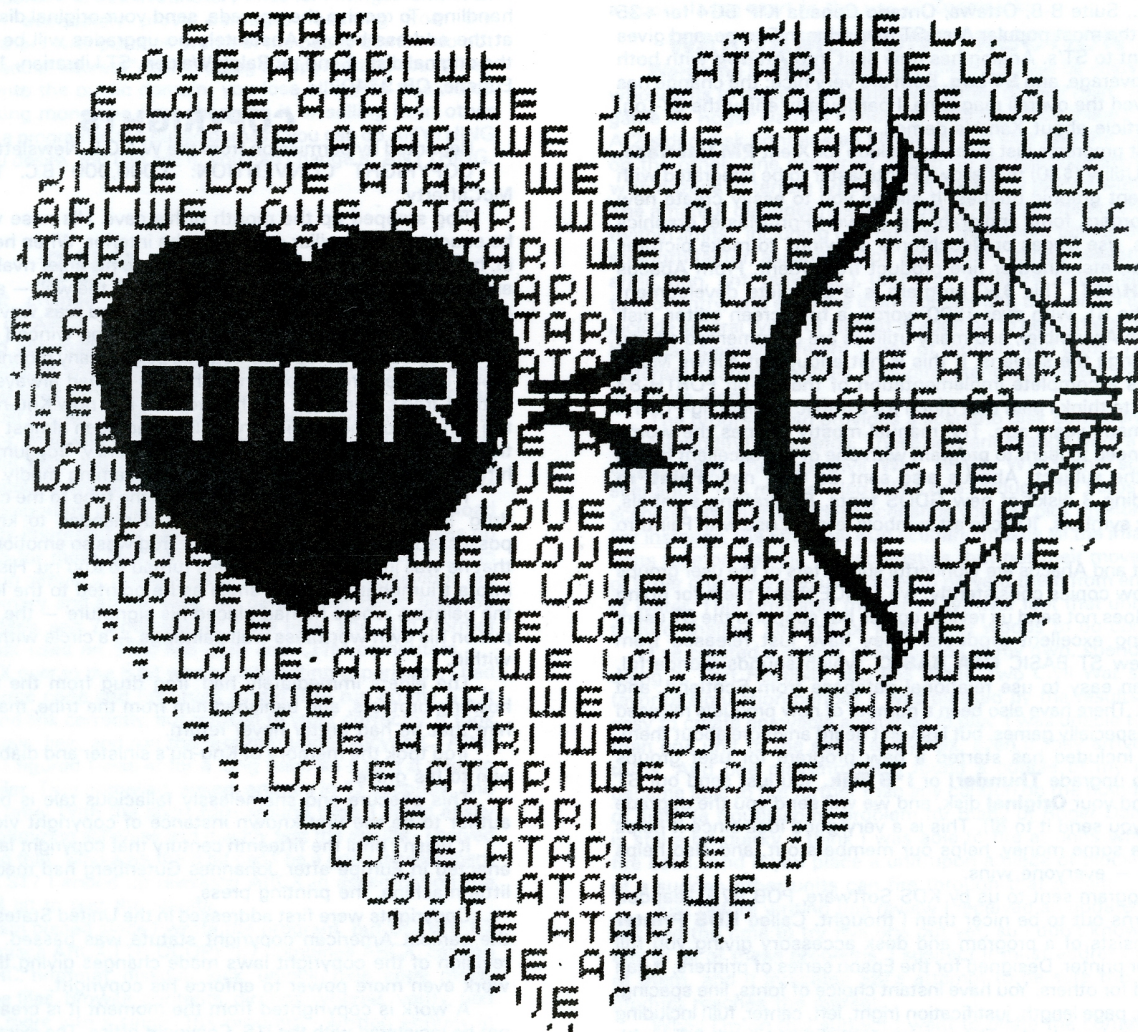


ATARI COMPUTER ENTHUSIASTS

3662 Vine Maple Dr. Eugene OR 97405

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News and Reviews

by Mike Dunn, Co-Editor

The day of desktop publishing for the Atari has arrived. The announcement from Atari of the new desk top publishing system including an expanded ST with up to 4 meg of memory, a 20 meg hard disk and a laser printer for about \$3000 is a real coup if they can produce. For those of you who cannot wait, **Typesetter Elite** by Xlent software for only \$49 will do much, or if you want most everything, for \$150, **Publishing Partner** from Softlogic seems to do all the Macintosh-type programs do. I have not used it, but Jim Bumpas demonstrated it at our last ACE meeting. He is very impressed with it and uses it at work. Buddy Hammerton is also very interested in desk-type publishing; I am trying to get him interested in some of my jobs and perhaps do the newsletter with one of the above programs. We are also looking into renting a laser printer, so don't be surprised if the look of the newsletter changes.

The price of doing the newsletter continues to climb. With the larger format, the Canada and overseas postage has gone up quite a bit. For those members in Canada, your newsletter was late because they were turned back at the border — the postage had gone up 1 cent but I didn't know it. We cannot use bulk mail, so these all go 1st class. In the past, we charged the same, but now must go up. New membership fees:

1. US bulk mail — \$14 year; 2. Canada 1st class — \$17 US year; 3. Overseas Air — \$28. If you renew now, we'll not charge the increase until March; but new memberships as above. Our BBS, under the able leadership of Ralph Walden, will soon be increased to 30 Meg. Should we have an extra charge for those who use the BBS, or increase the general membership fees? So far, we have used the money from the disk library sales to fund the tremendous expense, so it you keep ordering, maybe we will not have to increase our fees.

Several new magazines are out. From Europe comes **STuser**, a slick, well produced English publication available here from G-plus Marketing, 130 Albert St., Suite B-8, Ottawa, Ontario Canada K1P 5G4 for \$35 a year. This is the most popular Atari ST magazine in Europe, and gives a different slant to ST's. Analog has now split into **Analog** with both 8 and 16 bit coverage, and **ST-Log**. Both are very nice; the change has greatly improved the overall magazine. I particularly enjoy the ST-Log, with a nice article about Xanth's demos.

New 16 bit programs just received include for Xlent **PM Interface**, a GEM based Utility (\$30) that allows Printmaster to be integrated with Degas and Xlent graphic utilities. It allows you to easily create new PrintMaster borders, fonts and graphics, convert PrintMaster graphics to Xlent Icons, use Degas or Neochrome drawings to make pictures for PrintMaster, etc. Another fine product from Xlent. From Abacus comes **FORTH/MT**. This \$50 program is a complete development package for the ST, with over 1500 words, a full screen editor, disk monitor, Macro-Assembler, and many utilities are documented so you can easily change the screens. If this is not enough, it allows Multi-tasking, and is a complete implementation of the 32-bit FORTH-83 standard. And to think I paid that much for a public domain fig-FORTH for my 8-bit many years ago. The manual mostly defines the words supplied; you need to learn to program with one of the excellent books available on the subject. Abacus also sent us their new **PaintPro Library** including 3 disks of new GDOS fonts, 50 drafting symbols, 100 electronic symbols, 100 clip art symbols, etc, for use with PaintPro and Degas.

Both Xlent and Abacus are wonderful supporters of the user groups and send review copies consistently; we at ACE thank them for doing so. Michtron does not send us review copies but supports the ST users by also making excellent products. They have just released from Germany a new ST BASIC **GFA BASIC**, which sounds wonderful, **TRIMbase**, an easy to use relational database from Scotland, and several games. There have also been a number of new products released for the 8-bit, especially games, but I haven't heard anymore about them.

Batteries Included has started a new program for user groups allowing us to upgrade **Thunder!** or **I'S Talk**. You just send our ST librarian \$5 and your **Original** disk, and we will send you the upgrade (costs \$10 if you send it to BI). This is a very good idea since it helps the club make some money, helps our members out, and also helps the company — everyone wins.

A new program sent to us by KDS Software, POB 975, Leander, TX 78641 turns out to be nicer than I thought. Called **KDS Printer Driver**, it consists of a program and desk accessory giving you full control of your printer. Designed for the Epson series of printers, it can be customized for others. You have instant choice of fonts, line spacing, margins, skips, page length, justification (right, left, center, full) including with proportional print, etc. The version sent did not work fully with 1st Word, but a new version out soon will. For \$40 the price may not be too far out of line because of the ability to produce proportional print which is right justified. This program could be very handy to control your printer.

December 10, 1986, Sunnyvale, California THIRD QUARTER RESULTS

Atari Corporation reported results of operations for the three months and nine months ended September 30, 1986. Sales for the quarter ended September 30, 1986 were \$59,878,000 versus \$28,985,000 for the prior year, an increase of 107%. Income before extraordinary credit for the third quarter was \$4,633,000 versus a loss of \$2,538,000 in 1985. Net income for the quarter was \$9,199,000. Net income per share was \$0.41 versus a loss of \$0.11 last year.

Sales for the nine months ended September 30, 1986, were \$165,464,000 versus \$76,637,000, an increase of 116% over a year ago. Income before extraordinary credit was \$13,100,000 versus a loss in 1985 of \$29,213,000. Net income through nine months was \$21,519,000. Net income per share was \$0.98 versus a loss of \$1.31 in 1985.

Sam Tramiel, President, stated "consumer acceptance and retail takeaway continues extremely strong. Demand for the Atari Video Games and the 16/32 bit ST computers exceeded our expectations." He also said, regarding the successful initial public offering completed during November, 1986, "Atari Corporation is now aggressively pursuing its leadership role in the personal computer industry from a position of strength, that is, we are virtually debt free and have a solid equity base on which to build the Company's future." Atari Corporation develops, manufactures, and markets microcomputer systems and software as well as video games systems, designed to offer advanced technology at low prices. The Company's product line consists of the 16/32 bit ST computers, the with associated software and accessories.

UPDATES

Batteries Incorporated has authorized the Ace Users Group to upgrade copies of Thunder to Thunder 1.3. This upgrade will be offered to registered owners who return their original disk to the Ace library. There will be a nominal fee of \$5.00 to cover the cost of postage and handling. To receive the upgrade, send your original disk to the library at the address below. Absolutely no upgrades will be made without the original disk. Send to: Ralph Walden, ST Librarian, 1821 Jefferson, Eugene, OR 97402.

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Trog stepped up the mouth of his cave. His nose wrinkled when he caught an unfamiliar odor from the interior. When he snuck quietly in, he found his woman in rapt attention to his chief rival, Knu-nu. They are both looking at the beautiful painting on the wall — a man throwing a rock at a couple of antelope — and Knu-nu was waving a squirrel's tail soaked with the blood of the squirrel. Trog winced at the horrible, random splashes of red that Trog had begun many moons ago. An angry growl escaped from Trog's mouth. Knu-nu had always been jealous, both of Trog's paintings, and his woman, and now Knu-nu dared violate the sanctity of the studio where Trog had been almost ready to unveil the greatest work of his life. In a burst of frenzy, Trog jumped on Knu-nu hitting, choking, kicking, biting and screaming madly.

The commotion brought the rest of the tribe to the cave where they drug Trog from Knu-nu. The elders demanded to know what had possessed Trog to act so uncivilized. Trog was so emotionally distraught that he was incoherent. The elders turned to Knu-nu. His face tightened into a triumphant devious smile as he pointed to the lower corner of the painting where he had placed his signature — the one he always put on his own worthless wall paintings — a circle with an open circle within.

The elders immediately had Trog drug from the cave, amid his howling protests, and banished him from the tribe, making it clear to him that he had better never return.

Trog took the memory of Knu-nu's sinister and diabolical grin with him to his grave.

This obscure and shamelessly fallacious tale is believed by this author to be the first known instance of copyright violation.

It wasn't until the fifteenth century that copyright laws were finally enacted in Europe after Johannes Gutenberg had made his amazing little machine, the printing press.

Copyrights were first addressed in the United States in 1790 when the earliest American copyright statute was passed. In 1978 a big revision of the copyright laws made changes giving the creator of a work even more power to enforce his copyright.

A work is copyrighted from the moment it is created, so it need not be registered with the U.S. Copyright office. The existence or validity of a copyright is unaffected if it is not registered, although registration can be of help when it comes to protection of the work, it can offer proof of copyright if the work is distributed without a copyright notice.

Registration is a requirement only if a person intends to bring suit to enforce their copyright. The courts generally consider registration undeniable evidence of copyright if it is made within five years of first publication.

A copyright remains in effect until 50 years after an author's death. After that period, the works enter the public domain, in which case the works are free to be published by anyone without fear of reprisal. Occasionally works will fall into public domain through ignorance on the author's part, by letting it be published without copyright notice.

All this talk about copyrights reminds us that people who write programs for their computer also automatically have copyrights. This means that if a notice is on the material that the author (or publisher) retains the copyrights, it is ILLEGAL TO COPY, except for personal use. A back-up copy is entirely legal even if you have to use a copy program to do it.

Some software authors put their works in the public domain with copyright notice, but with permission to distribute freely. Notices like that are there mostly to protect the author's financial interest in case someone starts selling the program.

Remember: Software authors are people like you and me, and some of them make their living by assigning copyrights of their programs to publishers. An author who can write software full time is apt to become a better programmer, and produce better programs. If copyrights are ignored, what's an author to do except turn to another computer, or even another line of work? Please remember to respect the author's copyrights and not cut short our own supply of good software!

For more information on copyright registration write: Copyright Office, Library of Congress, Washington, D.C. 20559

— Leo Newman

[Editor's Note: The above article contains the following errors: Registration is not a requirement for bringing suit. Registration is not "undeniable" evidence, either. It's merely "presumptive" evidence. Registration is important to obtain statutory fines for infringement, even when one can't adequately prove damages resulting from the infringement. Authors who put their works in the public domain do not protect their "financial interest" by including a copyright notice. When you put a work into the public domain, you lose all rights to exclude others from making money on it or changing it or selling it. In other words, if you use a program in the public domain, you can do ANYTHING to it or with it you desire. You can sell it, you can change it. ANYTHING. Period. — JB]

BBS NEWS

The biggest change for the BBS recently has been the implementation of ARCX for the 8 bit Atari. ARC is a method of compressing and optionally combining files — it tries out 4 different compression methods and chooses the one that yields the smallest file. ARCX is used to extract the file(s) from the resulting .ARC file. An .ARC file has a built in CRC check — if ARCX doesn't give you a warning about a CRC error, then you know your downloaded file(s) is identical to the one on the BBS you got it from. It also removes the trailing characters that some terminal programs tack onto a file that can cause havoc. But most important is that it will take you less time to download the file (especially important for long distance callers), and it frees up room on the BBS for more files. When I ARCD all the 8 bit files on the BBS, I freed up almost 2 megabytes of space. Average savings are 15 percent for binary and shrink files, 35 percent for Basic files, 50 percent for text files, and 70 percent for AMS files. The .ARC format is identical to that used on ST's, MS-DOS and CP/M computers.

Porting ARCX over to the 8 bit was an interesting experience. I had the MS-DOS source code and first tried to get it to run on my ST. It would compile and link correctly, but refused to work correctly. It took a minute to compile, link, and run the program under Alcyon C. After a few attempts, I figured I was in for a long haul, so I sent it over to my 8 bit C compiler. That compiled, linked, and ran in 17 seconds, and worked the first time! With the short turn around time, I could easily try out various optimizing schemes and quickly test the results - I halved the run time doing that. Who says the 8 bit can't be a good development machine for the ST? I ended up rewriting ARCX in assembly on the ST - using the 8 bit to test the results.

Obviously I am biased since I wrote the program, but DCOPY 1.7 may very well replace ARCX.TTP. DCOPY 1.7 combines ARCX, list and validate from ARC, hiforamt, diskdup, lock, unlock, hide, copy, move, erase and rename files, browse, contents, dirprint, whereis, verify, text conversion, and more into a single 15K program - written entirely in assembly. DCOPY is a freeware product by Ralph Walden. It's available on the ACE BBS.

— Ralph Walden, SYSOP ACE BBS (503) 343-4352

BUMPAS REVIEWS

I've been using **Publishing Partner** for a couple of weeks now, and in spite of a few bugs (version 1.0, ya know!), I'm very impressed. This program has great potential! I went to a seminar last year in which the Macintosh desktop publishing system (\$10,000 worth!) was demonstrated. This program on a 1-meg ST looks like it can do everything I was shown in that scenario. I know several people here in town who've already bought this program, and I'm sure more will do so. The output I'm getting on my 9-pin SG-10 printer is better than you see on many newsletters, but it's not nearly as good as the photo-offset we're now using. However, with a laser printer, or with a 24-pin printer with 480 dpi resolution, we should get quality which is perfectly adequate for this newsletter. And what a kick! To get that kind of quality on a newsletter produced (but not printed) entirely with an Atari system. The program contains drivers for any Postscript device and several other printers, including the QMS laser printer. The Gemini drivers don't work well on my SG-10, but the MX80 one works ok. I've been told to try the FX80 driver for even better results. The one feature I'm having the most fun with is loading in all kinds of Degas, Neo and Tiny pictures and re-sizing them to fit into columns in various documents. I can shrink full-screen pictures down to nearly any size I need to fit into a column. You can bet you're going to hear more about this (and other similar programs, when they appear).

ZOOMRACKS 2

QuickView Systems (146 Main St., Los Altos, CA 94022, 415-965-0327) has issued two starter kits for business and home use. These kits contain dozens of Zoomracks templates and additional ideas for templates which one might put to use in the home or in business. QuickView does not retain a copyright on the templates themselves, encouraging wide use of them. They only copyright the information which is provided inside many of the templates. For \$20 you can get a good, flying start in the use of Zoomracks.

WARGAME CONSTRUCTION SET

Wargame Construction Set (\$40, SSI) will be enjoyed by anyone who wants to design computer wargames of their own. This is the first game by Roger Damon I know of which can be played by 2 players. A 2-sided disk contains an Editor on one side and the Game program on the other. One can draw a map on an approximately 60x60 grid with dozens of terrain types which are easily placed with the joystick. The amateur designer has the ability to assign characteristics to units (within limits), including unit number, movement points, defense factor, strength factor, assault factor, aggression, range, weapon type (small arms, gun, anti-tank, etc.), unit type (infantry, tank, helicopter, etc.), turn of entry, and even the icon representing the unit on the map. Icons include several types of aircraft in addition to helicopters. You can select between several different types of mortars and guns. There are even different infantry symbols, including standard military symbols as well as figure icons.

The program also provides a scenario disk containing 8 ready-to-use (or modify!) scenarios. These scenarios range from a 12th century castle siege through Civil War, WW2, WW3 and science fiction scenarios. The manual also takes one through the steps of creating a scenario. By studying these scenarios you can pick up interesting tricks. For instance, the First Bull Run scenario makes all the infantry and gun units take on vehicle characteristics (but not their movement factors or other characteristics!) in order to prevent them from entering woods or water. This simulates the early Civil War fact that units rarely tried to ford shallow streams or form up in woods to do combat.

I've created a couple of scenarios of my own, spending a Sunday doing it. Port Republic and Pea Ridge, two Civil War scenarios (my favorite simulation period). I was pleased by the results, and I find it easy to create enjoyable scenarios to play. I was unable to assign more than one unit to the same entry hex, even if they arrive on different turns. And one play-through I found a couple of my infantry units became able to fire farther than any cannon on the board. And the line of sight (a troublesome problem for many of Roger Damon's games) is still a bit quirky. I think I was able to fire at units which could not fire back. And if you place a unit upon a piece of blocking terrain, all of a sudden other units can fire through that terrain.

Just before writing this review I received an updated version. I've not had the time to try this one out yet, so I don't know if it corrects any or all of these problems. I suspect it must address at least some of them, and it indicates SSI's attempt to be sure the best possible product reaches the market.

While I'm on this subject I want to relate the contents of a letter I received from SSI regarding their Gettysburg game. We find it impossible for the Union to win that game against a human opponent. SSI says they've corrected the problem in the next game they're readying in the series, a game on the Battle of Chickamauga. I hope they make

some correction or patch so those of us who want to play Gettysburg and have a chance of winning as the Union side can enjoy this game again.

PROCHARGE

ProCharge (Magic Mountain Software, Rt. 1, Box 653, Boone, NC 28607 (704) 264-3021 \$99) is the first complete time and billing package for the ST. It works on either monochrome or color, and they recommend a hard disk if you have more than a few clients. This is an easy-to-use GEM application which is not copy protected. It seems to do everything our multi-thousand dollar time and billing package at the office does, and more quickly. ProCharge may even be more flexible in its ability to generate reports than the LOMAS system we use at our law office.

One interesting feature is the ability to post charges based not only upon an hourly rate, but also a "difficulty factor" as a multiple of the hourly charge. We don't do this sort of thing in our law practice, but certain professions might find this feature very helpful in generating billings on matters which are more difficult than run-of-the-mill tasks. Extensive use of the mouse makes this program very easy to use.

Work codes can be designated by a 5-digit string for each task your office performs. Staff codes are also designated by a 5-digit string. You may add work codes and staff codes at any time, and not just when you set up.

Searching the client list, and printing out lists of any kind from the database is as simple as pulling down the menu and clicking the mouse (make sure you have paper in the printer!). The running total for each job is easy to keep track of. The program provides a "scratch" area in which to record the work done on a particular job. When the job is completed, then you can post the entire job (or fraction of the job) to the client's activity record. ProCharge expects you to use this "current work" feature more than any other because it's so helpful.

Monthly and daily reports, as well as reports based upon any staffcode, or workcode parameters you give it are quickly and easily produced. You have the option of printing to the screen or printer. The billing procedures permit you to use your own letterhead or NEBS 9652 pre-printed forms. You can also produce mailing labels from the database. The one cumbersome area of the program is found in setting up the fiscal year date. This must be repeated every year. The program requires you to manually enter the dates of each monthly period. It seems to me this process should be more automated than it is.

ProCharge seems to be an excellent product for a small professional firm. It's not designed for a multi-user computer system, and this is probably the only advantage the LOMAS system we use on our Alpha Micro at work has over this package.

GEM VIP

GEM VIP (\$20 for the upgrade) is here. For those of us who have waited for this product for over a year now this is very exciting. This version makes extensive use of the mouse for most operations. The mouse is helpful even to those of us who've used Lotus and the text version for so long for certain operations, such as moving around the spreadsheet and defining ranges. Users familiar with Lotus could be made happier by allowing them to re-size the data window to cover up the GEM status lines at the bottom of the screen and show more lines of data. This version is not copy protected. The upgrade package contains a separate disk of utilities, sample templates and sample macros. The new version also provides for automatic loading of worksheets as well as a printer driver to support the Canon A2 laser printer.

The documentation accompanying the upgrade describes some changes to the manual. It also informs you that a text version is available for "power users". The GEM version does not display the 20 lines of data with which Lotus users are used to. You get only 13 lines (color) or 15 lines (mono), because the extra windows containing the menus, etc. take up space. I find the windows containing the commands, prompts and current cell entry to be easier to read and use than the former text version. I don't know if the "power user" text version is the same as the previous text version we had. But the notice with the upgrade implies it is a new development.

This GEM VIP loads both .NAT and .WKS files more quickly. In fact, .WKS files are loaded very quickly indeed. The .NAT files you've created with VIP in the past are loaded in easily and completely. GEM VIP will only save files in .WKS format, however. You can forget .NAT forever, once you've loaded in your files into the new version.

I said your data files are loaded in "completely". This is not entirely accurate. Certain data is corrupted. Fortunately, none of the data contained in the spreadsheet cells is corrupted. But I tried to view a graph from one of my .NAT templates and found curious things. Titles were mostly garbled. Data ranges were scewed. And only the first cell of any "X" range data is displayed. So I tried to create a graphs all over again. Still no "X" range data. Of all the graph types, only PIE graphs

displayed "X" range data. So, in my view the graph functions in v.1.0 of the GEM VIP are not usable at all.

I also tested the data buffer. The new status command only displays a percentage of memory remaining, rather than a byte count. So I loaded a big 200k template (in just a few seconds!) and found I had only 50• remaining in the data buffer. I calculated from this the data buffer in a 1-meg machine is only about 415k. That's 177k less than I had before the GEM version. But then I tested the GEM version with a small template containing no data on a half-meg machine. I still had 45• of the data buffer remaining. Not enough for very much data, but I'm surprised I had any at all, since I had nowhere near 177k of data buffer on a half-meg machine before the GEM version. There's some magic here I don't understand. I still think they should take all the graph functions out of the main program. The graph printing program is already separate. Taking all the graph functions out could give one a large data buffer. Another problem I've discovered is printing a spreadsheet is much slower than the previous text version. This GEM version prints a line and pauses. Then prints a line and pauses. And so on.

I admit I use GEM VIP in preference over the previous text version. The main reason is the speedier disk I/O in this version. That one feature alone is enough to make it valuable to me.

STWRITER v. 1.70

The newest version of STWRITER has a feature which potentially could make it extremely valuable to the business user. CTRL-K at the beginning of a line creates a comment which is not printed when the document is printed. If the data merge function could display the last comment line before the data entry, STWRITER could be used much more easily for form letters and similar documents. Then we could design prompts to describe the entry desired instead of just some neutral "next entry" prompt. Keeping a list of the entries required is not very practical.

— Jim Bumpas

HARRIER STRIKE MISSION

Have you ever envisioned yourself as the pilot of a sophisticated jet aircraft engaging an aggressor force in aerial combat? If so, this is the program for you. Upon bootup, you will find yourself sitting in the cockpit of a harrier jump jet looking down the deck of an aircraft carrier. From here, you're on your own to live or die — and die you will, as they forgot to put in an eject button so you can punch out.

The program is well written, and gives you many skill levels to "program" in and play. When you fly novice stick, the aircraft flies in coordinated flight. That means it is relatively easy to fly. On expert stick, the aircraft flies much the same as a real aircraft would. That is, when you roll her on to her side you have to put in elevator control to turn.

One serious problem is you have to use the mouse instead of the joy stick. In novice flight I find I can make the mental switch just fine. In expert flight, I find myself looking at the picture of the stick to find out where my controls are. Another minor problem is where the altimeter initials are. When you are cruising along at 600 feet or less, the needles are obscured by the writing.

The programmers have provided a good turn and bank indicator, speed indicator, altimeter and compass. These are a must for a successful mission. You also have several views out of the cockpit, fore, aft, right and left. There is also a top view that one can use to find their overall position — at times. If you're at 10 grand, the maximum altitude, the only thing you will see is ocean. If this can be improved/changed it will help. They have also provide good sound effects that the user can control and have good graphics in day and night flight.

With a little practice, you will find yourself destroying enemy aircraft, fuel dumps and tanks with impunity. You are equipped with 3 sidewinder missile and an aden cannon that blows thing all to — smithereens. With the exception of SAM and air to air missile launched at you.

I like to shoot touch and goes landings off the carrier deck and the runway. In the second screen/scenario, you can fly around pylons and through the span cables of a bridge — if you're good enough.

This program has provided me with many hours of fun and relaxation(?). I do however request that we be given the option of using a stick and hope that different theaters of operation become available. With these features, and an ejection seat, I will live to fly again.

— Mike Rogers

A.C.E. Bulletin Board

Provides full support for the 8 and 16 bit Atari computers. On line 24 hours a day, Sunday - Friday. ACE membership required on Saturday. 300/1200/2400 baud using a US Robotics Courier modem, a 10 megabyte Supra hard disk, and running OASIS Bulletin Board software.

Laser printer

Reprinted from the Atari BBS

Las Vegas, NV Jan. 8 — A prototype laser printer, being demonstrated by Atari here at CES, will form the basis for a full-featured desktop publishing system costing less than half the price of systems built around competing architectures. Designed to interface with Atari's ST line of high-performance personal computers, the new laser printer will be taken to market later this year at the astoundingly low price of around \$1500.

"Desktop publishing" — the use of personal computers to produce high-quality printed matter — has become a burgeoning industry over the past two years. Powerful, graphics-oriented personal computers such as the Atari ST are now routinely used in typesetting, page design, paste-up, and — in combination with high-resolution laser printers — for producing high-quality, "camera ready" output. However, largely because the price of laser printers has remained high, the cost of a desktop publishing system is still out of reach for many.

By redesigning the standard laser printer to take advantage of the power latent in the ST line — particularly the new Mega STs — Atari hopes to make full-featured desktop publishing a reality at less than \$3000 for a complete system; about what a conventional laser printer costs today. Designed to interface with the ST's high-speed DMA (Direct Memory Access) port and incorporating a standard laser "engine," the Atari laser printer will produce rapid throughput at 300 dots-per-inch resolution. Though technical details have not yet been revealed, Shiraz Shivji, head of Atari's hardware engineering division, states that Atari "has designed an admirably flexible system that includes all the advantages and few of the disadvantages of present laser printer architectures. The printer will be able to handle multiple fonts and standard page-description languages at the discretion of software. Moreover, adapting present software to use the laser printer's full capabilities should be fairly simple, providing such software has been written in conformance with GEM standards."

MEGA ST

Reprinted from the Atari BBS

Las Vegas, NV Jan. 8 — Atari's new Mega ST 1, 2, and 4 computers, announced today at the Consumer Electronics Show, create new personal computer price/performance standards — standards that the rest of the computer industry will be hard-pressed to meet or beat in 1987. Available starting at \$1000, the new machines will offer up to four megabytes of RAM memory: sixteen times that of most standard, high-end workstations.

The Mega ST is housed in an independent "system unit," about 22" square by 2" high, containing the CPU, a double-sided floppy drive and an internal power supply. The ST's normal complement of ports, including those for DMA, RS-232 serial, parallel, disk, video, cartridge, MIDI, mouse, and joystick, plus an additional port for connecting the detachable, ergonomic keyboard, are included. The Mega ST system unit is reinforced to support a monitor and can be stacked with other components — notably the enhanced 20-megabyte hard disk drive. Even fully loaded, it will take up far less room than present ST configurations.

The sleek new Mega chassis contains a redesigned ST motherboard, sporting significant enhancements. A battery-backed clock/calendar is now standard equipment, eliminating the present need to set time manually on power-up. The clock runs off alkaline penlight batteries — more easily obtainable and less expensive than "coin-type" lithium cells.

The Mega ST architecture is "wide open," permitting internal and external expansion with add-on circuit cards. The new design provides full access to the 68000 bus and power supply, and fixtures have been provided for installing a circuit board inside the case. Further expansion is possible by routing the bus outside to an external card-cage. RAM expansion up to 16 megabytes and networking capabilities will soon be available from Atari as low-cost add-ons.

The Mega ST's detachable keyboard is designed to the highest ergonomic standards for convenience and ease of use. Connected to the system unit by a coiled cable, the new keyboard can be held comfortably in the lap. When placed on the desktop, adjustable legs fold down to support the unit at the preferred typing angle. Internally, the keyboard has been enhanced with high-quality key switches for improved tactile and auditory feedback, better "feel," and increased reliability.

Where does the Mega line stand in relation to other Atari products? "They're our flagships," says Atari spokesman Neil Harris. "The Mega STs represent Atari's continued strong support of the ST architecture." They are also physical proof that Atari has been listening to its users and taking their advice seriously. "Most of the improvements we've made in the basic ST design have been taken from 'wish lists' that have come out of our dialogue with users over the past year," Harris says.

With vastly expanded memory, an open architecture, a more compact configuration with integrated peripherals, and an improved keyboard, the Mega machines are clearly intended as "professional" computers. Networking capabilities and sufficient memory for running multiple, co-resident applications, plus the promise of desktop publishing (in combination with the upcoming Atari laser printer) are sure to make the Mega ST an office favorite in the coming year.

ATARI PC

Reprinted from the Atari BBS

Las Vegas, NV Jan. 8 — The audience at this morning's CES press conference was stunned to learn that Atari Corporation, long a manufacturer of proprietary, high-performance home and personal computers, is planning to market an IBM PC-compatible machine. Industry insiders, however, were quick to note that Atari has always been known for bringing state-of-the-art products to market at low prices and for driving the industry by finding and staking out new turf. In this context, it is less surprising that Atari has chosen to bring their special brand of competition where, for the moment, the competition is hottest. "We saw no reason to ignore the fact that there are profits to be made in the IBM PC-compatible marketplace at this time," says Neil Harris, Atari's Director of Marketing Communications, "especially since it is a different market than the one we are addressing with our high-end, flagship ST systems."

Presently, the PC-compatible industry is moving in two directions. At the low end, a group of more-or-less anonymous clone makers are packaging "bare bones" systems for the mail-order market. Buyers of such machines often find that they must add several hundred dollars worth of extra hardware before their "bargain systems" can accomplish useful work. At the high end, clone makers such as Leading Edge and Compaq are providing more complete systems than IBM itself. At prices starting at around \$1200 and up, however, these machines can only be considered bargains in comparison with the even higher cost of going with Big Blue.

In designing their PC, Atari management decided to run counter to both dominant trends. Instead, they reasoned that by applying new technology and old-fashioned manufacturing leverage, they could bring to market a fully-loaded, state-of-the-art system — a "here's everything you'll ever need" PC — at a price-point low enough to undercut even the "el cheapo" clone makers.

They appear to have succeeded. The Atari PC, which will retail for "around \$500," is a compact and elegant system loaded with features not found on systems costing literally thousands of dollars more. Measuring about 22" square by only 2" high, the Atari PC system unit includes a built-in, half-height 5-1/4" diskette drive and integral power supply. An XT-style keyboard attaches to the unit via a coiled cable. A second 5-1/4" drive or ST-style 3-1/2" drive, capable of reading disks in either ST or IBM format, can be attached externally. But that's just the beginning.

The Atari PC comes with 512K of RAM, expandable to 640K via sockets on the motherboard. Standard serial, parallel, and combination video ports, and an ST-style disk port, are all included. A mouse port, based on the Microsoft INPORT chip, is built in, and an ST-type mouse is included with the system. Thus, unlike competing PC-compatible systems, the Atari PC will be able to run PC GEM, Microsoft Windows, and mouse-based programs like Microsoft Word, right out of the box.

The Atari PC employs an Intel 8086 microprocessor which can run at 4.77 Mhz and in an enhanced, 8 Mhz, "turbo mode." An 8087 math coprocessor, running at either speed, can be added via a socket on the motherboard.

As one would expect, Atari has paid special attention the Atari PC's graphics capabilities. Most low-cost PC compatibles support only the IBM Monochrome mode, and are thus text-only systems. A few of the more expensive clones include IBM Color Graphics Adapter (CGA) and/or Hercules monochrome graphics capabilities. IBM Enhanced Graphics Adapter (EGA) 640 x 350 x 16-color graphics capabilities have, in the past, only been accessible via expensive upgrades to a system's display circuitry and the purchase of costly high-resolution monitors. Moreover, purchasers of the supposedly downward-compatible EGA enhancements have often been disappointed to discover that IBM-style EGA isn't as downward compatible as they hoped — some CGA software won't run.

Yet, Atari has managed to shoehorn IBM Monochrome, CGA, EGA, and Hercules graphics capabilities into the Atari PC. Besides the fact that the Atari PC is the only PC-compatible to include EGA graphics as a standard feature, Atari's Shiraz Shivji notes: "our EGA is completely downward-compatible with CGA. As a result, users will experience no compatibility problems when using the lower graphics modes." What's more, Atari has announced a \$200 monochrome greenscreen monitor for use with the Atari PC that can display all its graphics modes; including the high resolution EGA color mode, using intensity gradients (gray scales) to represent colors. This is the first monitor that

incorporates these capabilities. "The monitor is intelligent," says Shivji, "and recognizes the frequency of signals coming from the combination video port, adjusting itself appropriately to display whatever kind of text or graphics the machine produces."

The Atari PC is virtually 100% compatible with software available for the IBM PC and XT. While its slimline housing provides no room for mounting internal circuit cards, it is doubtful that more than a handful of users will require more capabilities than the machine provides in its off-the-shelf configuration. For those who do, Atari intends to provide an external expansion box in the near future.

— downloaded from Atari BBS

VERSATILITY PLUS

By now, a lot of you know that several of us here at ACE are avid users of Zoomracks II. In fact, I don't know what I would do without it. With the field expansion possible, 250 lines, you can add copious amounts of information to any record. The most important thing that I keep on Zoomracks II is my school notes. We use current magazine articles along with written text. In my class rack, I have class notes, followed by summaries of the magazine articles kept in a loose leaf binder, followed by chapter notes from the text books. This keeps all information in one central place under "subject" headings. The system works so well, that both the instructor and students have asked for full copies of my to help them. And I am not noted for organizational skills!

I have heard that Pico is presently reviewing the Zoomracks program for use on portable computer. For me, Heaven would be a fast portable computer capable of supporting Zoomracks II. Then I could take notes right in class and not have to transcribe them when I get home. If any of you portable computer manufacturers out there are reading this, and you want someone to field test your unit — with Zoomracks of course — PLEASE get in touch with me through the news letter. Dreams do come true sometimes don't they? HOPE HOPE!!!!

— Mike Rogers

USER HINTS

STuff

Our ST Group meetings are every 4th Wednesday of each month (we've been meeting regularly since December, 1985) at 7:00 pm. The location is Amazon Community Center, in the south crafts room.

Zenith V.5

I downloaded and deared a beta version of Zenith to see if some of the rumors Ralph Walden had heard about it are true. These rumors say it may give Flash a run for its money when it's finished.

The Beta version does have some interesting possibilities, but very little documentation to tell what the writers have in store for us. At this time, it does not look like the program will support ymodem or crc. These factors may be added, we just have no idea. One thing Zenith does promise, is Mos Dos capabilities so other work can be accomplished during lengthy down loads. This will be nice and extremely useful. The system has an auto dial mode which is easy to access, add information to and use. I have an Avatex 1200 modem and could not get it to auto dial. It did manual dial by typing in the access codes. You can also easily set up an auto redial to help you get on those popular boards which are always tied up.

The software promises a large capture buffer to be used when downloading. At the present level, I bombed out when I tried to use it, Ralph says I set a record as I had 10 bombs across the screen. There is also an E mail function and a Database which are not implemented as yet.

The program presents itself very nicely on the screen and is easy to use. Even at this level, uploading and downloading is a snap. Even I couldn't mess that up. During this phase, there is a red box which lights up at the top of the screen that gives you the status of blocks received, or blocks sent and left to be sent.

Before I saw this program, I was convinced I was going to have to purchase Flash so I could batch down load files from the bulletin board for inclusion in the library. At this time I intend to wait until the release version is out and give it a try (after corresponding with Double Click Software) to try and get a time schedule. Stay tuned to this column in the future, as I hope to do a more intensive review when the final copy is out. Authors, please add batch capabilities and fix the auto dial: This looks like a program I want to own!

—Mike Rogers

EASYDATA

The EasyData 1200 Modem (GCH Systems, Inc., Sunnyvale, California 94086 (408) 733-2131) is another low cost entry into the 1200 baud Hayes Compatible modem arena. It is advertised in the October issue of Computer Shopper as selling for \$119 from the "Wholesale Outlet" in New York (515-459-7883). The modem supports Bell 103 and 212A specifications and operates asynchronously in both half and full duplex modes. Baud rate and parity of the terminal or computer are determined by the modem. The modem then automatically adjusts its self to match the terminal or computer it is attached to saving the user from this often confusing task. It is also compatible with the Hayes software command set, including most of the "S" register commands.

Hardware features include: An internal speaker with volume control, separate line and phone jacks, a back panel on/off switch, four configuration switches, and front panel indicators. The configuration switches allow you to: disable the auto answer function, control the DTR (data terminal ready) signal, control the DCD (data carrier detect) signal, and a fourth switch that is not used. The indicator lights are what you would expect to see on a modem. GCH has been kind enough however to label the indicators with easily understandable nomenclature. The indicators include: Modem Ready, Term Ready, Auto Answ, High Speed, Off Hook, Carr Detect, Send Data, and Recv Data.

A very interesting and useful feature provided with the EasyData, is a software command called Monitor/Adaptive Dialing. The modem monitors the state of the phone line during dialing. It can detect a dial tone, busy signal, and ringing at the other end of the line. After it sets the phone line off-hook, it checks for a dial tone. If a dial tone is detected, it dials the first number. The modem then checks to see if the dial tone disappears. If it does not, the modem automatically switches dialing modes (adapts) from Touch-Tone to pulse or pulse to Touch Tone and attempts to dial the number again. If the dial tone still persists, the modem sends a "BAD LINE" message and hangs up. Otherwise, it dials the rest of the number.

When dialing is completed, the modem starts looking for ringing or busy signals. If a busy signal is detected, the modem sends a "BUSY" message and hangs up (really save a lot of time if dialing from a phone list. Else it reports each ring with a "RINGING" message. A "CONNECTED" message is issued if the phone is answered.

The EasyData includes a Blind Dialing mode as a default to provide compatibility with software expecting a fully Hayes compatible modem. This mode simply assumes what ever should have happened to the phone line has and uses time delays to anticipate the state of the phone line. The modem appears to be completely compatible with the Hayes commands in this mode when comparing command codes and register commands in the manuals.

The thirty pages of documentation are quite good with a lot of "you type this and you should see that" kinds of examples. It contains a Table of Contents, concise descriptions of the "AT", and "S" register commands. There is no cross index though. The documentation is printed on 5 1/2" by 8" three ring punched sheets like much of the IBM PC documentation. They do not provide a binder for the documentation, which is a problem for those who don't have anything to put the sheets in. I have had to play "thirty page pick-up and sort" several times due to this omission.

The modem is advertised to be compatible with IBM PC telecommunication programs such as: PC-talk, Crosstalk, Framework, Bitcom, Smartcom, PFS: ACCESS, and Symphony. I used it successfully on an Atari ST with FLASH!, and an Atari 130XE with a P/R: Connection and Express 850, running in the Monitor/Adaptive mode.

The EasyData Modem has a two year limited warranty. GCH Systems Inc. will replace the modem if it fails due to workmanship or parts during the first year. Failures during the second year have a prorated charge of 1/12 the current list price for each month remaining in the warranty, not to exceed \$75 total charges.

— Ron Robinson

LOGO USER GUIDE

Atari ST Logo User's Guide is a Data Becker book published by Abacus Software. This 375 page book is useful in helping one to learn about Atari ST Logo. I've learned that Atari ST Logo is extremely similar to the 8 bit version. But there is only one turtle. The chapters in the book cover calculating with Logo, dice throwing and repetition, programming with Logo, editing programs, graphics programming, and many other topics. There is an optional Atari ST Logo User's Guide diskette which can be ordered to accompany the book for \$14.95.

— Miles Erickson

JEWEL OF THE ST

(reprint: Nybbles & Bytes, Jan. 1987)

GEM: The Jewel of the ST. I'm going to expand the scope of this column a little and include some examples in Pascal and C along with Basic. Unfortunately, there are some things Pascal can do Basic won't, and some things C can do Pascal can't.

Here's a short little goody which can be done in all THREE languages: Change the mouse arrow to a pointing hand.

BASIC

```
10 a# = gb
20 gintin = peek(a# + 8)
30 poke gintin, 3
40 gemsys(78)
```

C

```
#include <osbind.h>
#include <gemdefs.h>
int dummy;
int work-in[11], work-out[57];
int handle;
int contrl[12], intin[128];
int ptsin[128], intout[128], ptsout[128];
int gr-hwchar, gr-hhchar, gr-hwbox, gr-hhbox;
main()
{ appl-init();
  open-vwork();
  graf-mouse(POINT-HAND, &dummy);
  Cconin();
  v-clsvwk(handle);
  appl-exit();
  open-vwork()
  [ int i;
  for (i=0; i less than 10; work-in[i++] = 1);
  work-in[10] = 2;
  v-opnvwk(work-in, &handle, work-out);
  ]
```

PASCAL

```
PROGRAM pointing__hand ;
CONST
  ($I gemconst.pas)
TYPE
  ($I gemtype.pas)
VAR
  dummy : integer ;
  ($I gemsups.pas)
BEGIN
  IF Init_Gem greater than = 0 THEN
  BEGIN
    Set_Mouse( M_Point_Hand ) ;
    Exit_Gem ;
  END ;
END.
```

— David Lindsley

COMPOSITE ST

Add Composite Video and Audio Jacks to Your 520ST

(Ron Robinson, St. Louis, Missouri - December 1986)

Did you buy a 520ST with a monochrome monitor? Do you wish you could least get a peek at all those neat graphics demos? Do you have a color composite monitor left from your 8 bit days you want to use with your 520ST? Or do you want to connect the sound output of your ST to a good sound system?

The good news is the 520ST includes a large variety video output signals allowing connection to an analog RGB monitor, high resolution monochrome monitor, composite monitor or a TV set. The bad news is Atari decided to bring these signals out to a 13 pin DIN connector which is very difficult to find, and it only allows the connection of one monitor at a time. The good news is it is not too tough to add a couple of common RCA type phono jacks to your machine, simplifying the connection of your 520ST to a composite video monitor or an audio system. An additional idea I will describe is the addition of a switch to allow you to select your composite or monochrome monitor without having to unplug either monitor.

First of all, the warnings. The late model 520STs, which includes 520STs with the built-in RF modulator for connection to a TV set, have a composite video signal brought out to pin 2. If your 520ST does not have the built in RF modulator, you probably do not have composite video available. This modification, while not very difficult, voids the warranty on your machine, and has the ever possible risk of destroying your ST. Therefore, do not attempt the modifications unless you are

ready to assume all risks involved, understand the instructions, and have the appropriate tools, materials and skills required to perform the modification. Be sure to read the following instructions before you decide to begin the modification.

SUGGESTED MATERIALS

Two RCA Phono Jacks - Radio Shack ±74-346
One Submini SPST Toggle Switch - Radio Shack ±75-645
Six Inches of miniature Shielded Cable - Radio Shack ±78-572
Ten inches of of 22 gauge wire.
Low wattage (40w), grounded tip soldering iron.
Long nose pliers. Diagonal Wire Cutters.
Wire stripper. Phillips screwdriver.

PROCEDURE

- 1) Disconnect everything plugged into your 520ST.
- 2) Remove the six screws from the bottom of the case. Notice the three screws from the rear of the case are longer than the three from the front. Be careful to keep these separate to avoid damaging the case when you reassemble your ST.
- 3) Gently lift the keyboard and disconnect the connector from the circuit board. Mark the top of the connector with a felt tip pen so you know how to plug the keyboard back in when you are done.
- 4) Remove the top metal shield surrounding the circuit board. Do this by removing the three screws in the front of the case, and straightening the tabs holding the shield in place.
- 5) Locate the Monitor Connector on the back panel of the ST.
- 6) Carefully drill two holes and mount the RCA phono jacks. I found room for mine between the Monitor connector and RF modulator, near the top of the case.
- 7) Drill another hole of the appropriate size for the switch.
- 8) Mount the plugs and switch to the back panel.
- 9) Cut and strip a length of shielded cable long enough to reach from a phono jack to pin one on the monitor connector. Pin one will be the top left pin as observed from the front of the ST.
- 10) Solder the center wire of the shielded cable to the center pin of one of the RCA jacks. This will be your audio output jack. Solder the shield to the tab on the RCA jack.
- 11) Solder the other end of the center wire to pin one on the Monitor Connector. Do not connect the shield on this end and make sure the shield doesn't short anything out.
- 12) Repeat steps 10 and 11 connecting the other RCA jack to pin two on the Monitor Connector. This will be the composite video output jack.
- 13) Solder a wire to the ground plane surrounding the outside of the circuit board. Connect the other end of this wire to the two tabs on the RCA jack you previously attached the shields to.
- 14) Carefully cut the Monitor Connector pin/conductor running from pin 4 to the circuit board where it makes it right angle bend. This is the Monochrome Detect signal.
- 15) Separate the cut pin/conductor so they don't touch, and solder a wire from the top pin to one side of the SPST switch. Then solder a wire from the bottom pin to the other side of the SPST switch.
- 16) Carefully reassemble your computer in the reverse order you took it apart. Make sure you use the long case screws for the rear holes.
- 17) Reconnect everything plus your composite monitor. Hopefully, all went well and you can now select between color and monochrome modes by changing the switch you added.

AVATEX CABLE

(reprint: Huntsville Atari Users Group, Dec., 1986)

If you have an ST and an Avatex modem, the following cable will give trouble free telecommunicating. Get two DB-25 connectors and a 4 conductor cable and connect both ends as follows:

Pin 2 — Transmitted Data (TD)
Pin 3 — Received Data (RD)
Pin 7 — Signal Ground
Pin 8 — Carrier Detect

On the ST end ONLY, connect these two pins together as follows:

Pin 4 — Request to Send (RTS)
Pin 5 — Clear to Send (CTS)

On the MODEM end of the cable ONLY, connect these two pins together as follows:

Pin 6 — Data Set Ready (DSR)
Pin 20 — Data Terminal Ready (DTR)

The ST handshakes using RTS/CTS, while the Avatex uses DSR/DTR. The software takes care of the handshaking when using this cable.

XYZAP

FROM PAGE 6

X-Y-Zap is a two player game in which the players are in co-operation rather than competition. Two joysticks are required in ports 1 and 2. Each player controls a tracker, one along the X-axis adjacent to the grid and the other along the Y-axis.

The object of the game is for each player to line their tracker up with the spark which is moving inside the grid. When both players press their fire buttons together a neutralizer will appear at the intersection of each tracker's axis. If the spark is hit the scores is increased and a new spark appears at the centre of the grid. A player cannot move his tracker whilst his fire button is pressed and should the spark hit a tracker a life will be lost.

```

1 REM *****
*
2 REM *           X-Y-ZAP
*
3 REM *           by
*
4 REM *           ALLAN KNOPP
*
5 REM * -----
*
6 REM * PAGE 6 MAGAZINE - ENGLAND
*
7 REM *****
*
100 REM
105 GOSUB 720:GOSUB 560
110 REM P.M. MOVER SUBROUTINE
115 REM SETUP
120 DIM P01$(7),P02$(7),P03$(7)
125 DIM G0$(8),G01$(8),G02$(8),G03$(8),
G1$(8),G11$(8),G12$(8),G13$(8),S0$(8),
S01$(8),S02$(8),S03$(8),S04$(8)

130 DIM PMMOV$(100),P0$(30):MOVE=ADR(PMMOV$):FOR X=1 TO 100:READ N:PMMOV$(X)=CHR$(N):NEXT X:REM READ ML DATA

135 REM NOW READ SHAPE DATA
140 FOR X=1 TO 7:READ N:P0$(X)=CHR$(N):NEXT X
145 FOR X=1 TO 7:READ N:P01$(X)=CHR$(N):NEXT X
150 FOR X=1 TO 7:READ N:P02$(X)=CHR$(N):NEXT X

```

```

155 FOR X=1 TO 7:READ N:P03$(X)=CHR$(N):NEXT X
160 FOR X=1 TO 5:READ N:G0$(X)=CHR$(N):NEXT X
165 FOR X=1 TO 5:READ N:G01$(X)=CHR$(N):NEXT X
170 FOR X=1 TO 5:READ N:G02$(X)=CHR$(N):NEXT X
175 FOR X=1 TO 5:READ N:G03$(X)=CHR$(N):NEXT X
180 FOR X=1 TO 8:READ N:G1$(X)=CHR$(N):NEXT X
185 FOR X=1 TO 8:READ N:G11$(X)=CHR$(N):NEXT X
190 FOR X=1 TO 8:READ N:G12$(X)=CHR$(N):NEXT X
195 FOR X=1 TO 8:READ N:G13$(X)=CHR$(N):NEXT X
200 FOR X=1 TO 8:READ N:S0$(X)=CHR$(N):NEXT X
205 FOR X=1 TO 8:READ N:S01$(X)=CHR$(N):NEXT X
210 FOR X=1 TO 8:READ N:S02$(X)=CHR$(N):NEXT X
215 FOR X=1 TO 8:READ N:S03$(X)=CHR$(N):NEXT X
220 FOR X=1 TO 8:READ N:S04$(X)=CHR$(N):NEXT X
225 PMBASE=INT((PEEK(145)+3)/4)*4:POKE 54279,PMBASE:REM SETUP P.M. AREA
230 POKE 53275,32
235 PMB=PMBASE*256
240 PMD=ADR(P0$):REM P.M. DATA ADDRESS
245 PME=ADR(P01$):PMF=ADR(P02$):PMG=ADR(P03$)
250 GUA=ADR(G0$):GUB=ADR(G01$):GUC=ADR(G02$):GUD=ADR(G03$)
255 GAA=ADR(G1$):GAB=ADR(G11$):GAC=ADR(G12$):GAD=ADR(G13$)
260 SQ=ADR(S0$):SQA=ADR(S01$):SQB=ADR(S02$):SQC=ADR(S03$):SQD=ADR(S04$)
265 POKE 559,46:POKE 53277,3:REM P.M. DMA
270 POKE 623,1
275 POKE 706,54:POKE 705,200:POKE 704,248
280 REM MAIN LOOP
285 X=128:Y=64:G=1:GG=10:Y5=20:X5=68:L=5:SC=0
290 XI=8-INT(RND(0)*16):YI=8-INT(RND(0)*16)
295 POKE 53278,1:POKE 53263,0:POKE 53260,0:POKE 77,0:REM CLEAR COLLISION
300 X=X+XI:Y=Y+YI
305 GG=GG+16:IF GG>250 THEN GG=10
310 S0=STICK(0):ST0=STRIG(0)
315 S1=STICK(1):ST1=STRIG(1)
320 POKE 707,GG
325 IF ST0=1 AND S0=14 THEN Y5=Y5-6
330 IF ST0=1 AND S0=13 THEN Y5=Y5+6
335 IF ST1=1 AND S1=11 THEN X5=X5-6
340 IF ST1=1 AND S1=7 THEN X5=X5+6
345 IF Y5<20 THEN Y5=20:IF Y5>108 THEN Y5=108
350 IF X5<68 THEN X5=68:IF X5>185 THEN X5=185
355 IF X<68 THEN X=68:GOTO 365
360 IF X>185 THEN X=185
365 IF Y<20 THEN Y=20:GOTO 380
370 IF Y>108 THEN Y=108
375 POKE 53278,1
380 G=G+1:IF G>4 THEN G=1
385 IF G=1 THEN PMA=PMD:GUA=GUB:GA=GA
390 IF G=2 THEN PMA=PME:GUA=GUB:GA=GA
395 IF G=3 THEN PMA=PMF:GUA=GUC:GA=GA
400 IF G=4 THEN PMA=PMG:GUA=GUD:GA=GA
405 A=USR(MOVE,3,PMB,PMA,X,Y,7)
410 SOUND 0,100,12,14:SOUND 0,0,0,0
415 A=USR(MOVE,2,PMB,GU,185,Y5,5)
420 A=USR(MOVE,1,PMB,GA,X5,108,8)
425 IF ST0=0 AND ST1=0 THEN GOSUB 595
430 IF PEEK(53263)>1 AND PEEK(53263)<9 THEN GOSUB 640
435 IF RND(0)>0.75 THEN 290
440 GOTO 300
445 REM P.M. MOVE DATA
450 DATA 216,104,104,104,133,213,104,24,105,2,133,206,104,133,205,104,13,204,104,133,203,104,104,133,208
455 DATA 104,104,133,209,104,104,24,101,209,133,207,166,213,240,16,165,205,24,105,128,133,205,165,206,105
460 DATA 0,133,206,202,208,240,160,0,162,0,196,209,144,19,196,207,176,15,132,212,138,168,177,203,164
465 DATA 212,145,205,232,169,0,240,4,169,0,145,205,200,192,128,208,224,166,213,165,208,157,0,208,96
470 REM PLAYER IMAGE DATA
475 DATA 66,129,60,36,60,129,66
480 DATA 129,24,36,66,36,24,129
485 DATA 24,36,66,153,66,36,24
490 DATA 36,66,153,60,153,66,36

```


CODE CONT

```

495 DATA 51,68,255,17,102
500 DATA 153,34,255,136,51
505 DATA 204,17,255,68,153
510 DATA 102,136,255,34,204
515 DATA 40,108,198,146,170,198,68,5
6
520 DATA 40,40,84,146,130,68,68,56
525 DATA 56,56,84,68,68,68,68,56
530 DATA 40,40,40,40,40,40,40,40
535 DATA 0,0,0,24,24,0,0,0
540 DATA 0,0,24,60,60,24,0,0
545 DATA 0,24,60,126,126,60,24,0
550 DATA 24,60,126,255,255,126,60,24

555 DATA 60,126,255,255,255,126,
60
560 REM SETUP SCREEN
565 GRAPHICS 7+16:COLOR 2:FOR X=20 T
0 139 STEP 6:PLOT X,0:DRAMTO X,95:NE
XT X
570 FOR X=0 TO 95 STEP 6:COLOR 3:PLO
T 20,X:DRAMTO 139,X:NEXT X
575 COLOR 1:PLOT 20,95:DRAMTO 20,0:D
RAMTO 139,0
580 POKE 710,98:POKE 709,54:POKE 708
,14
585 SOUND 1,249,10,2:SOUND 2,251,10,
2
590 RETURN
592 REM LOSE
595 POKE 53278,1:A=USR(MOVE,0,PMB,50
,X5,Y5,8):SOUND 0,220,12,14:FOR W=1
TO 15:NEXT W
600 A=USR(MOVE,0,PMB,50A,X5,Y5,8):S0
UND 0,224,12,14:FOR W=1 TO 15:NEXT W
605 A=USR(MOVE,0,PMB,50B,X5,Y5,8):S0
UND 0,228,12,14:FOR W=1 TO 15:NEXT W
610 A=USR(MOVE,0,PMB,50C,X5,Y5,8):S0
UND 0,232,12,14:FOR W=1 TO 15:NEXT W
615 A=USR(MOVE,0,PMB,50D,X5,Y5,8):S0
UND 0,236,12,14:FOR W=1 TO 15:NEXT W
620 IF PEEK(53260)>6 AND PEEK(53260)
<9 THEN Y5=20:X5=68:X=128:Y=64:GOSUB
630
625 A=USR(MOVE,0,PMB,50,0,0,8):RETUR
N
630 FOR W=150 TO 20 STEP -5:SOUND 0,
W,10,14:NEXT W:SOUND 0,0,0,0:POKE 53
278,1:POKE 53260,0:POKE 53263,0
635 SC=SC+10:RETURN
637 REM LOSE A LIFE

```

```

640 POKE 53278,1:POKE 53263,0:FOR W=
0 TO 20:SOUND 0,255-W,12,14:POKE 705
,W*10:POKE 706,255-(W*10):NEXT W
645 SOUND 0,0,0,0:POKE 705,200:POKE
706,54
650 POKE 53278,1:POKE 53263,0:Y5=20:
X5=68:A=USR(MOVE,2,PMB,6U,185,Y5,5):
A=USR(MOVE,2,PMB,6A,X5,108,8)
655 X=128:Y=64:A=USR(MOVE,3,PMB,PMA,
X,Y,7)
660 L=L-1
665 IF L<0 THEN GOTO 675
670 RETURN
675 POKE 53277,0
680 GRAPHICS 2+16
685 POKE 708,102:POKE 709,138
690 IF SC>HSC THEN HSC=SC
695 POSITION 4,5:?"your score ";
SC
700 GRAPHICS 2:POKE 710,0:POKE 752,1
705 POSITION 4,10:?"press start"

710 IF PEEK(53279)<6 THEN 710
715 GOSUB 560:GOTO 265
720 GRAPHICS 2:POKE 710,0:POKE 752,1
725 FOR X=1 TO 6:POSITION 5,X:?"#6;"
POSITION 5,X-1:?"#6;" "
730 SOUND 0,X*5,10,14:FOR W=1 TO 10:
NEXT W:POKE 708,132:NEXT X
735 FOR Y=18 TO 6 STEP -1:POSITION Y
,7:?"#6;"Y":POSITION Y+1,7:POKE 711,
74:?"#6;" "
740 SOUND 0,Y*5,10,14:FOR W=1 TO 10:
NEXT W:NEXT Y:POKE 708,142:FOR W=1 T
O 10:NEXT W
745 POSITION 7,7:?"#6;"-zap"
750 ? " WRITTEN BY ALLAN KNOPP
"
755 FOR W=1 TO 65:SOUND 0,W*4,8,14:P
OKE 709,RND(0)*150:NEXT W:SOUND 0,0,
0,0:POKE 709,255:FOR W=1 TO 100:NEXT
W
760 RETURN

```

CODE CONVERSION

 -C% ** RESISTOR COLOUR CODE CONVERT
 ER *M J--C% *****

 ON--IDEA BY P. BROWN *M J--C% ****

 /Q
 QCI As the title infers this progra
 m takes an input of three colour
 s and \??C7converts them into thei
 r respective numerical values. /VL
 LC0 The original idea consisted of
 many 'IF' statements, comparing the
 |,PPPCMinpitted colours and was in
 GR.0, the final result uses a custom
 display \KKKClist and even has a
 graphic representation of
 a resistor. /44C, complete with the
 correctly coloured bands. /QQCI
 It works or, at least it does as far
 as I can tell, and although you may
 |QQCInot be interested in its use
 , it con- tains a few useful bits an
 d pieces. /RRRJFeel free to pull i
 t apart, I have in-cluded a few REM
 statements to help. /SSCK On the o
 ther hand you may like it!! The who
 le point is, that from a seem-|QQC
 ingly simple idea a reasonably com
 plex program can emerge, utilizing s
 ome r!!Cof ATARI's many features.

```

10 REM *****
***
20 REM *Resistor colour code convert
er*
30 REM * By P.Gibson & P.Brown
*
40 REM * Adelaide Atari Computer Clu
b *
50 REM *****
***
60 GOSUB 1250
70 DIM M$(1)
80 GOSUB 1510
90 TS=PEEK(88)+PEEK(89)*256

```



```

100 POKE 764,255:OPEN #1,4,0,"K:"
110 POKE 705,42:POKE 706,42:POKE 707
,42:POKE 711,42:POKE 708,12
120 REM **** WRITE THE PROMPT ****
130 POKE 87,1:T5N=T5:GOSUB 830
140 REM In the next line [(CTRL-H)
[,CTRL-L]
150 POSITION 0,0:? #6;" colours A a
b b c c)"
160 REM **** DRAW RESISTOR ****
170 POKE 87,10
180 T5N=T5+80:GOSUB 830
190 COLOR 7
200 FOR I=6 TO 42:PLOT 20,I:DRAWTO 5
9,I:NEXT I
210 FOR I=23 TO 24:PLOT 0,I:DRAWTO 1
9,I:PLOT 60,I:DRAWTO 79,I:NEXT I
220 FOR I=7 TO 41:COLOR 1:PLOT 23,I:
DRAWTO 25,I
230 COLOR 2:PLOT 29,I:DRAWTO 31,I
240 COLOR 3:PLOT 35,I:DRAWTO 37,I:ME
XT I
250 REM **** OUTPUT KEYBOARD TO GR.
2 SCREEN ****
260 POKE 705,42:POKE 706,42:POKE 707
,42
270 N=0:V=1
280 GET #1,A
290 POKE 87,2
300 T5N=T5+20:GOSUB 830
310 POSITION N,V
320 ? #6;CHR$(A);
330 IF A=155 THEN 370
340 N=N+1:IF N=20 THEN V=V+1:N=0
350 GOTO 280
360 REM **** GET THE FIRST COLOUR *
**
370 N=0:AA=0
380 POSITION N,1
390 GET #6,B
400 C=1*(B=44)+2*((B<65 OR B>90) AND
B<44):ON C GOTO 440,860
410 AA=AA+B
420 N=N+1:GOTO 380
430 REM **** GET THE SECOND COLOUR *
***
440 N=0:BB=0
450 GET #6,D
460 C=1*(D=44)+2*((D<65 OR D>90) AND
D<44):ON C GOTO 500,860
470 BB=BB+D
480 N=N+1:GOTO 450
490 REM **** GET THE THIRD COLOUR **
**
500 N=0:CC=0
510 GET #6,E

```

```

520 C=1*(E=32)+2*((E<65 OR E>90) AND
E<32):ON C GOTO 560,860
530 CC=CC+E
540 N=N+1:GOTO 510
550 REM **** CALCULATE THE VALUE **
*
560 T=AA:GOSUB 940
570 IF 5<2 OR 5>10 THEN 860
580 GOSUB 1730
590 POKE 705,COL
600 VALUE=(5-1)*10
610 T=BB:GOSUB 940
620 IF 5>10 THEN 860
630 GOSUB 1730
640 POKE 706,COL
650 VALUE=VALUE+(5-1)
660 T=CC:GOSUB 940
670 GOSUB 1730
680 POKE 707,COL
690 ON 5 GOTO 700,710,720,730,740,75
0,760,770,780,790,800,810
700 VALUE=VALUE*1:M$="":GOSUB 1000
710 VALUE=VALUE*10:M$="":GOSUB 1000
720 VALUE=VALUE/10:M$="K":GOSUB 1000
730 VALUE=VALUE*1:M$="K":GOSUB 1000
740 VALUE=VALUE*10:M$="K":GOSUB 1000
750 VALUE=VALUE/10:M$="M":GOSUB 1000
760 VALUE=VALUE*1:M$="M":GOSUB 1000
770 VALUE=VALUE*10:M$="M":GOSUB 1000
780 VALUE=VALUE*100:M$="M":GOSUB 100
0
790 VALUE=VALUE*1000:M$="M":GOSUB 10
00
800 VALUE=VALUE/10:M$="":GOSUB 1000
810 VALUE=VALUE/100:M$="":GOSUB 1000
820 REM **** SETUP SECTIONS FOR OUTP
UT ****
830 POKE 88,T5N-(INT(T5N/256)*256)
840 POKE 89,INT(T5N/256):RETURN
850 REM **** ERROR ROUTINE ****
860 POKE 87,2
870 T5N=T5+1940:GOSUB 830
880 POSITION 0,0:? #6;"ERROR-PLEASE
CHECK COLOURS AND RE-
INPUT !"
890 FOR M=1 TO 750:NEXT M
900 POSITION 0,0:? #6;"
"
910 T5N=T5+20:GOSUB 830
920 POSITION 0,1:? #6;"
"

```

```

930 GOTO 250
940 REM **** FIND THE COLOURS ****
950 S=1*(T=349)+2*(T=392)+3*(T=219)+
4*(T=444)+5*(T=476)+6*(T=369)+7*(T=2
96)+8*(T=467)
960 S=5+9*(T=311)+10*(T=385)+11*(T=2
94)+12*(T=469)
970 IF S=0 THEN 860
980 RETURN
990 REM **** PRINT OUT THE RESULTS *
***
1000 POKE 87,2
1010 T5N=T5+1940:GOSUB 830
1020 REM "Value is " & "ohm" are in
inverse characters
1030 POSITION 0,1:? #6;"VALUE IS ";V
ALUE;M$;" OHM"
1040 POKE 87,1
1050 T5N=T5+2020:GOSUB 830
1060 REM "do you want another" is in
Lower case, inverted characters
1070 POSITION 0,0:? #6;"do you want
another"
1080 REM "y/n" is in inverse charact
ers [(CTRL-0]
1090 POSITION 8,1:? #6;"y"n"
1100 ANS=PEEK(764)
1110 C=0:C=1*(ANS=43)+2*(ANS=35)+3*(
ANS<43 AND ANS<35):ON C GOTO 1140,
1120,1100
1120 POKE 764,255:GRAPHICS 0:END
1130 REM **** CLEAR SCREEN & START A
GAIN ****
1140 POKE 87,2
1150 T5N=T5+20:GOSUB 830
1160 POSITION 0,1:? #6;"
"
1170 T5N=T5+1940:GOSUB 830
1180 POSITION 0,1:? #6;"
"
1190 POKE 87,1
1200 T5N=T5+2020:GOSUB 830
1210 POSITION 0,0:? #6;"
"
1220 POSITION 8,1:? #6;"
"
1230 POKE 764,255:GOSUB 250
1240 REM **** INSTRUCTIONS ****
1250 GRAPHICS 1+16
1260 ? #6;"THIS PROGRAM WILL"
1270 REM "Resistor colour code" is i
n inverse characters
1280 ? #6;"CONVERT THE RESISTOR COLOU
R CODE INTO"
1290 REM "Numerical values" is in in
verse characters
1300 ? #6;"NUMERICAL VALUES. JUST
TYPE IN THE COLOURS, IN THEIR"

```


CODE CON'T

1310 ? #6;"ORDER, SEPARATED BY A COM
MA, THEN PRESS RETURN"

1320 ? #6;"THE VALUE WILL BE DISPL
AYED."

1330 REM "k" & "kilo" are in inverse
characters

1340 ? #6:? #6:? #6;" 'I'-INDICATES
"IIO"

1350 REM "*1000" is in inverse chara
cters [*=CTRL-J] [I=CTRL-Q] [O=CTRL-
P]

1360 ? #6;" OR "r++++"

1370 REM "w" & "meg" are in inverse
characters

1380 ? #6;" 'I'-INDICATES "meg"

1390 REM "*1000000" is in inverse ch
aracters [*=CTRL-J] [I=CTRL-Q] [O=CT
RL-P]

1400 ? #6;" OR "r++++++"

1410 ? #6:? #6:? #6:? #6;" press an
y key to continue"

1420 IF PEEK(764)=255 THEN GOTO 1420

1430 POKE 764,255:GRAPHICS 1+16:? #6
;"THE STANDARD COLOURSUSED ARE :--":?
#6

1440 ? #6:? #6;" black
BROWN red"

1450 ? #6;" ORANGE
yellow GREEN"

1460 ? #6;" blue
VIOLET grey"

1470 ? #6;" WHITE
gold SILVER"

1480 ? #6:? #6:? #6:? #6:? #6;"
press any key to start"

1490 IF PEEK(764)=255 THEN GOTO 1490

1500 RETURN

1510 REM **** DESIGN & LOAD THE DISP
LAY LIST ****

1520 GRAPHICS 6+16

1530 POKE 559,0

1540 DL=PEEK(560)+PEEK(561)*256+3

1550 POKE DL,64+6

1560 FOR I=0 TO 1:POKE DL+3+I,7:NEXT
I

1570 POKE DL+5,7+128

1580 FOR I=0 TO 46:POKE DL+6+I,15:NE
XT I

1590 POKE DL+51,15+128

1600 FOR I=0 TO 3:POKE DL+52+I,7:NE
XT I

1610 FOR I=0 TO 2:POKE DL+56+I,6:NE
XT I

1620 POKE DL+59,65:POKE DL+60,PEEK(5
60):POKE DL+61,PEEK(561)

1630 REM **** MACHINE LANGUAGE ROUTI
NE FOR DLI ****

1640 FOR J=0 TO 20:READ B:POKE 1536+
J,B:NEXT J

1650 DATA 72,169,128,141,10,212,141,
27,208,169,32,141,0,2,169,6,141,1,2,
104,64

1660 RESTORE 1650

1670 FOR J=0 TO 20:READ B:POKE 1568+
J,B:NEXT J

1680 POKE 1570,15:POKE 1570,0

1690 POKE 512,0:POKE 513,6

1700 POKE 54286,192

1710 POKE 559,34:RETURN

1720 REM **** PICK COLOUR FOR BANDS
ON THE RESISTOR ****

1730 ON 5 GOTO 1740,1750,1760,1770,1
780,1790,1800,1810,1820,1830,1840,18
50

1740 COL=0:RETURN

1750 COL=226:RETURN

1760 COL=52:RETURN

1770 COL=22:RETURN

1780 COL=236:RETURN

1790 COL=198:RETURN

1800 COL=134:RETURN

1810 COL=68:RETURN

1820 COL=6:RETURN

1830 COL=14:RETURN

1840 COL=248:RETURN

1850 COL=10:RETURN

benzene.pi3
benzene
lewis123.prg
lewis123.rsc
lewis123.doc
document.doc
encrypt.doc
encrypt.prg
encrypt.rsc

tinyview.prg
520st.tny
aafag.tny
cover2.tny
aatrain.tny
altmap.tny
angel.tny
antic.tny
astronau.tny
bee.tny
brunel.tny
busters.tny
cactus.tny
canyon.tny
capitol.tny
car.tny
carddame.tny
cardking.tny
ct_mag.tny
cheval.tny
darkside.tny
cougar4.tny
cover1.tny
dastones.tny
garfield.tny
tinyview.prg

DISK LABEL: DEMO.1

DISK NAME TINY1

comet.tny
cottage.tny
dec.tny
deckhall.tny
demon.tny
dire.tny
disk2.tny
dragon.tny
drummer.tny
drwho.tny
eclips.tny
eifel.tny
elk.tny
enterpri.tny
floyd.tny
fl_pferd.tny
fonts.tny
horses.tny
fun.tny
groo.tny
gohorse.tny

DISK NAME TINY2

FEBRUARY

MEETING

WED. THE 11TH

7:30PM

SOUTH EUGENE HIGH

FINISHED NEXT MONTH

ST BLITTER

(reprint OrNJuce, Nov., 1986)

Atari is on the verge of finally releasing the long awaited blitter chip for the ST computers. But with many ST owners, there is confusion about just what exactly this blitter chip does. What is a blitter? Well, I'll try to explain. Pardon me if it gets a little hard to follow at times, but I'll try to make it easy. . . .

A blitter chip is a chip which blits. At this you may say, "Even I knew that, but what does it mean?" The term Blit is short for another term, Bit Block Transfer (Bit-BLT). This is a fancy name for moving the contents of one part of computer memory to another part, or transferring a block of bits. The way it does this is special. Instead of working on whole bytes of memory, blitting allows the individual bits of each byte to be accessed separately. This way, a bit-logic operation can also be performed on each bit during the transfer. This is very important when working with graphics memory, since one byte of memory may represent several points on the display screen.

The ST already has blitting routines written in software. These routines are used for many purposes, including most graphics output to the screen. Even printing text on the screen is done by blitting the character data from the font to the screen. Also, every time you move a window around on the desktop, you are making the system blit the screen memory to another part of the screen memory.

Because the ST's blitting routines are in software, the 68000 cpu must do everything all by itself. This works fine, but a custom-designed blitter chip can do this faster. Once the 68000 sets up the right parameters, the blitter chip can do the blit operation without any more help, doing it faster and freeing the 68000 for other things.

One important thing to know is when the blitter chip comes out it will have new TOS ROM chips with it. In the new ROM chips the current software blitter routines will be replaced with routines which just pass the necessary information to the blitter chip. This way, all programs which used the current software blit routines in the normal manner will still work with the blitter chip, but at a higher speed.

Programs which do not use the current software blitting routines will not experience any difference in speed with the blitter chip. This is important since most current games with a lot of animation probably use their own routines instead of the built-in ones. These games will not be speeded up beyond the point of playability.

Secrets of ST Bit-Block Transfer

Since the major uses of blitting are with the graphics and text output, the GEM blit routines are designed to be easily used in this fashion. The Atari ST also has a set of low-level routines which are designed specifically to be used by the GEM graphics routines, including blitting, which is known as the Line-A Interface. Using the blit routines is easier done with GEM, because the Line-A Interface can usually only be accessed via machine language. For all but the most speed intensive uses, there should not be any practical differences in performance. Regardless of which method you choose, most of the following information applies to both methods of accessing the blit functions.

Before blitting to or from an area of memory, you first define the area as though it was a graphics screen, or raster form. There is a special memory structure used by the ST for just this purpose, called a Memory Form Definition Block, or MFDB. The MFDB is set up like this (a long is 4 bytes of memory, and a word is 2 bytes):

MFDB = long ADDRESS	Address of form
word X_RES	Width, in pixels
word Y_RES	Height, in pixels
word WORD_WID	Width, in words
word FORMAT	Memory format flag
word PLANES	# of bit planes
word RES_1	Reserved value #1
word RES_2	Reserved value #2
word RES_3	Reserved value #3

The ADDRESS parameter should be set to the memory address of the top left corner of the raster form. When using the GEM VDI blit routines, if this address is set to 0, then the routines use the actual display screen for the form and GEM fills in the rest of the parameters by itself. Don't do this when using the Line-A routines, because it will not work.

The X_RES and Y_RES parameters are used to define the height and width, in pixels, of a memory form. This can vary quite a bit depending on what sort of memory form is involved. For example, the ST's system font data is a memory form 2048 pixels wide, and either 8 or 16 pixels tall (depending on the screen resolution used). That's a very wide, short form!

The WORD_WID parameter is used to hold the width, in words, of the form. This is to determine how much memory is used by each row. This can be determined by taking the X_RES parameter and multiplying it by the PLANES parameter, and then dividing the result

by the word size (16 bits). You use the result rounded up to the next integer.

Before discussing the FORMAT parameter, let's skip to the PLANES parameter. This is used to specify how many bit planes are used in the memory form. What's a bit plane? Well, it's not easy to explain, but here goes! Listen carefully.

The ST's screen memory is arranged in bit planes. The number of colors available depends on how many bit planes are used. With 4 bit planes, there is one bit in each plane for one pixel on the screen. Since 4 bits can contain 16 possible combinations, this is how many colors the screen can have with 4 bit planes. Thus, monochrome resolution has 1 bit plane with 2 colors (white or black); medium has 2 bit planes and 4 colors; and low resolution has 4 bit planes with 16 colors. If the ST could have 5 bit planes, you could get 32 colors, and so on. The video chip of the ST grabs one bit from each bit plane and adds them together to get the color to display for each pixel on the screen.

The FORMAT parameter is used to tell the bit routines how the bit planes of the form are arranged. Because of the way the ST's video chip works, the bit planes are mixed together in a certain way. But this is only the way the ST works. Since the GEM blit routines must work on different computers, and each computer might have its own method of arranging screen memory, there are two ways this parameter can be set. The first is called Device Specific. This means the memory for the bit planes is arranged in the way the device (the ST video chip in this case) uses it. On an IBM running GEM, this means the memory is [not] arranged the way the computer's graphics card wants it.

The second format is called Standard Format. This means all the bit planes are separated from one another. All of the first bit plane's memory comes first, followed by all the second bit plane's memory, and so on. One of the GEM blit routines is designed to convert from one format to the other. When blitting is always done within the same system, as for drawing programs or animation, this parameter is almost always used as Device Specific. But when there's a need to move data across different systems, it is changed to the Standard Format first.

On the ST, Device Specific is usually used for everything except for displaying fill patterns, character font data, and drawing icons on the desktop, since these things are sometimes shared across different systems.

The last three parameters, RES_1, RES_2, and RES_3, are all reserved for future expansion, and should always be set to zero.

OK, that's pretty much what you need to know about the parameters for the blit routines, now on to actually using them! After setting up both your source and destination forms, you set up an array which contains the top left and bottom right corners of both the area you are blitting from and the area you are blitting into. Both areas must be the same size, or you will get strange, unpredictable results. . . .

— Mike Fulton

1040 WHINE

(reprint: Bay Area Users Group, Dec. 1986)

Does your 1040 whine? When you boot up do you get the mosquito repellent? If so, this is for you. It is the "official" Atari 1040 power supply fix for 1040s with a high pitched whine emitting from them. The problem is the switching power supply used for the RS-232 port. It is supposed to switch at around 18Khz, but due to parts tolerances it sometimes falls lower than that, the result being an irritating "whine". It has falsely been described as "drive whine" and defective power supply modules. The circuitry is actually on the motherboard. This mod also cures a video "flutter" which sometimes occurs. Faint horizontal bars float up and down the screen. If you are not faint of heart, here are the instructions for the modification.

Note: I do not recommend this if you are not familiar with electronics!

You will be playing with the power supply, and if done incorrectly, could fry your ST! I am providing this info so the folks who are out of warranty can do it themselves. Also some dealers may not be familiar with the problem (well, Dave Groves was also twisting my arm!)

I do not accept responsibility for any premanent mushroom clouds you may cause, though I will be happy to help out if things go wrong (advice!).

Ok, here goes:

Take the case off your 1040. Remove the power supply module. It's pretty straightforward, as there is a plug for the wires. Untwist the grounding tabs on the shield and lift the shield off the PC board.

The parts to change are on the motherboard, below where the power supply was, and to the right of the ROMs. Change:

Part No.	From To
R17	1 ohm 5 ohm
L4	100 uh 220 uh
C28	100 pf 330 pf

Now, looking at the 1040 from the front, here is where the stuff is: R17 is one ohm (brown - black - black), and is below C26 (yes, that IS a capacitor!). L4 is the resistor looking thingy to the right of the I.C., a TL497. It's color code is brown - black - brown. C28 is located to the left of the I.C., next to a larger black capacitor. It's color code is also brown - black - brown. While these locations should be accurate, please note they could, and may change at any time! It is very important for you to replace the correct components.

You will need a good soldering iron, and solder, of course. A desoldering bulb, pump or solder wick is also needed.

Parts should be +/- 5%. Be sure and check the voltage at JP2 and JP3 (red and blue wires) for +/- 12 volts, +/- 15%. If not, it's time for the service center!

The only part which is usually hard to find is the inductor L4. It is available from Newark Electronics (they have branches all over the place!). The part no. is 35F1885 and is called a Deci-Ductor. They cost around \$4.

Well, that's about it. Hopefully after this point you will power up to blissful silence (and have saved some \$\$\$ to boot!). Good luck!

— Mark Sloatman 74206,356

PROGRAMMER JOB

Strategic Simulations, Inc., 1046 N. Rengstorff Ave., Mountain View, CA 94043 (415) 964-1353 is looking for a "Graphics Programmer/Analyst".

Responsibilities include: 1. The development of graphics tools allowing game designers to insert their game structure into ready-made graphics and pull down menu routines; 2. Providing assistance to both in-house and freelance authors with graphics routines; and, 3. Developing efficient, user-friendly I/O routines to enhance playability and quick disk access.

Requirements include: 1. Bachelor of Science in Computer Science; 2. 2 to 4 years of computer programming experience; 3. Knowledge of home micro-computers and machine language; and, 4. Two or more published and/or finished works demonstrating expertise in computer graphics on 6502 or 68000 based home computers.

For more information about this position, contact either Susan Billings, Vice President of Operations, or Chuck Kroegel, Director of Research & Development during business hours.

ST Library List

Disks may be ordered from the library for the nominal fee of \$10.00 per disk with the exception of the CPM 2 disk set which sells for \$15.00. When ordering disks, please send your remittance along with the name of the disk(s) ordered. We normally send disks out within 24 hours of receipt. Please send orders to:

Ralph Walden, ST Librarian, 1821 Jefferson, Eugene, OR 97402.

DISK LABEL: ACC.1

accload.prg
lets you enable and disable potential desktop accessories

analog.acx
displays an analog clock on the screen when enabled

autodate.doc, autodate.inf, autodate.prg
automatically lets you change time and date on file when used

breakout.acx
a game in the pong fashion

calndr.acx
displays a yearly and monthly calendar

clock.acx
another clock

crabs.acx
obnoxious crabs eat your screen

digital.acx
digital clock accessory

digiclok.acx
another clock accessory. This one uses only 7.5k

dirprint.acx
sends disk directory to the printer

diskmgr.acx
has format, free space, create/delete folder, copy/delete folder, and rename

freeram.acx
lets the user know how much ram remains

fortune.acx
find out what the future holds with witty fortunes

gclock.acx
a real time clock displayed on the top right of the screen

gclock.doc

kermit.acx
German terminal program

minos.acx
a maze puzzle

mites.acx
less obnoxious than _____ but still a royal pain

necdump.acx
dumps screen to printer

notepad.acx
make notes to yourself with this note pad

newword.acx
replaces word 40V2 mini text editor/word processor

newword.doc

pallet.doc

pallet.acx
changes desktop colors to a blue background with white icons

progcac.acx
The BEST calculator we have even programers can use it

puzzle.acx
put letters in alphabetic sequence by moving spaces

reversi.acx
play against the program to control the most spaces

reversi.doc

scrsaver.acx
turns the screen off at boot-up to help protect it

spooler.acx

ti59.acx
a workable ti59 calculator

ti59.rsc

ti59.doc

time.inf

tinywork.acx
format pictures in tiny form

ud.acx

ud.src
programs literally turns the screen upside down

DISK LABEL: WORD.1

cv816.prg
Convert between 8 and 16 bit Atari text format

dvorak.tos
Dvorak keyboard

filter.tos
Remove control codes from text - makes unknown format files readable

prof.man

prof.ttp
Text formatter

tprint.doc

tprint.ttp
Title printer

vert.ttp
Remove control codes from text - makes unknown format files readable

%STWRITER
% version 1.70

config.tos

config.txt

quikref

readme.doc

stwcodes.doc

stwhelp.doc

stwman

stwriter.prg

template.stw

xyzzx.txt

changes.txt

kwerty.tos

DISK LABEL: GAMES.1

cadenza.prg
Non-graphics checkers game

celest.doc

celest.prg
Non-graphics space war game

dragon.prg
Find maze exit before dragon eats you

eliza.tos
Tell your troubles to your computer shrink

life.prg
SLOW version of the game of Life

[night], night.doc, night.prg, night.rsc, night.def
You tell us! We can't figure it out...

mazemakr.tos
 Create a maze to print or display on screen
 megaroid.prg, megaroid.rsc
 Asteroids game, compliments of Megamax
 ripcord.dat, ripcord.prg
 Parachute onto landing pad
 score42.prg
 Get 4 balls in a row before the computer does.
 stbattle.tos
 Non-graphics battleship game
 target2.prg
 2-player game - figure angle and velocity to destroy opponent with
 tomatoes, twogame.prg
 2 games in one - mastermind and box the dragon
 yahtzee.prg
 Single player yahtzee

DISK LABEL: GAMES.2

[adventur]
 the original mainframe text adventure game 'colossal cave'
 advent.tos
 advent0.dat
 advent1.dat
 advent2.dat
 advent3.dat
 advent4.dat
 advent5.dat
 advent6.dat
 adventr.dat
 read.me
 [cracked]
 Shoot funny-looking creatures
 cracked.prg
 moon.dat
 moon.scn
 ocen.dat
 ocen.scn
 tree.dat
 tree.scn
 [daleks]
 a graphic? chase game
 daleks.doc
 daleks.prg
 daleks.rsc
 ogre.doc
 ogre.ttp
 21st century tank warfare game
 yog.prg
 a matching game first to get 5 in a row. several levels
DISK LABEL: HACK103
 The game of Hack, ported over from Unix to the ST.
DISK LABEL: UTIL.1

addrsbk.doc
 keeps records of addresses
 addrsbk.tos
 banner.tos
 prints a banner headline up to 10 lines
 banner.dat
 biclock.prg
 batteries included sets the clock
 gclock.doc
 gclock.prg
 puts the digital clock in the upper right hand corner of screen
 qdDate.prg
 sets the time and date
 frmtutil.prg
 format tos to 400K
 labels.prg
 prints disk labels
 macmenu.prg
 stops accidental access to the drop down menu's at the top of the screen. Push the right mouse button to access this area.
 mkcrlf.to
 converts CPM text files to st format
 seekts.tos
 settmdat.prg
 set time and date???
 speed.prg
 checks the drive speed
 stscope.tos
 checks the floppy drive speed
 timedate.tos
 sets the time and date

tprint.ttp
 title printer
 tprint.doc
 vert.ttp
 converts all control characters to spaces in a text file
 verify.prg
 turns write verification on and off —disk write verification
 volume.prg
 changes the volume name on a disk
 volume.rsc
 RAMDISKS:
 copy2.doc
 copy2.prg
 copies from drive a to the ram disk
 fastrand.doc
 fastrand.prg
 recommended for a ram disk selectable drive and size
 fram.s
 source code for ram disk
 dspeed.tos
 tests the speed of a ram disk
 coldstrt.prg
 forces reset to a cold start instead of a warm start—gets rid of protected ram disk
 rm.txt
 hramdisk.prg
 hramdisk.txt
 This is the new version of the harris ram disk. It can be used on both floppy disks and Ram disks!!!!
 rm108.prg
 rm174.prg
 rm370.prg
 rm436.prg
 rm501.prg
 rm567.prg
 rm632.prg
 rm698.prg
 default sizes for the harris ram disk choose the best size and put in an auto folder
 ramload.doc, ramload.prg
 Copies files from a customized list if not already on the ram disk
 RES:
 these files can be placed in an auto folder to force the resolution
 hi25.prg
 hi50.prg
 hitomed.prg
 medres.prg
 MASH:
 mash.doc
 mash.rsc
 mash.ttp
 compresses an entire disk
DISK LABEL: UTIL.2

address.doc, address.tos
 keeps track of addresses and phone numbers
 pascal source disk
 browse.prg
 browse through a text file
 default.lbl
 dirtree.tos
 does a directory of every file and every folder optional print
 disktop.prg
 another file disk index program
 easypay.doc
 easypay.prg
 calling banks and making payments over the phone?????
 fdi.prg
 disk index program
 fdi.txt
 filecmp.ttp
 compare two files with each other and find differences
 typeriter.prg
 editable one line direct print program
 typeriter.pas
 MEMTEST:
 memtest.prg
 test your computer's memory is it better than yours?
 mem12.prg
 memtst9.doc

DISK LABEL: UTIL.3

***** PROGRAMERS DISK *****

bin2asm.doc, bin2asm.prg

Converts a binary file to a .S assembly file

contents.tos

sends the directory of an entire disk to a file

crash.prg

tells you the state of the registers after a system crash

con8.tos

edits icons

macmenu.prg

BETTER MOUSE TRAP WORKS LIKE A MAC — prevents accidental

dropping down of menu's place in auto folder and press right mouse

button to cross the top line of the desktop

seced.doc

seced.prg

disk sector editor

showcode.tos

shows the numeric value of every key

touch.doc, touch.prg

updates the time and date of a file

whereis.ttp

search entire disk for a certain file

ARC:

this is the ST implementation of arc 512 compatible with MS-DOS,

and CP/M .ARC files. Combines and compresses files into an .ARC file.

arc.doc

st documentation

arc.ttp

arc.m.ttp

arcx.ttp

arcshell.dfn

arcshell.doc

arcshell.h

arcshell.mod

arcshell.prg

arcshell.rsc

runs arc.ttp from a gem shell. use this if you're not familiar with arc

hires.rsc

ibmarc.doc

complete ibm documentation

HARDDISK:

these are the latest hard disk utilities at this time

supboot.prg

supfmt.prg

supfmt.rsc

hardauto.prg

allows you to boot from aut folder on hard disk

hdbackup.doc

hdbackup.ttp

hard disk back up utility

DISK LABEL: UTIL.4

cpp2.doc

cpp2.prg

one of three shell programs

d.doc

d.tos

directory for any shell program

freeram.tos

Tells how many rams are free in a shell

gemdos.doc

gem documents manual

macicon

converts disk icons to look like macintosh icons

magfiler.doc

magfiler.pas

magfiler.prg

a filing program??? for magazines

msdos.doc

msdos.tos

the second of three shells we have

monst.doc

monst.prg

a debugger program

stsplitr.prg

splits up files that may be too long to handle

wboot.ttp

creates a boot file

wboot.doc

MOUSE:

mouse.doc, mouse.prg

create your own mouse icon for special? applications

mouse.rsc

FORMAT:

format.prg

gem based multi track multi section formatter

format.rsc

format.doc

PCOMMAND:

pcommand.prg

our best shell program

pcommand.txt

DISK LABEL: FORTH

The language Forth

DISK LABEL: C_SOURCE.

www.c

hard.c

touch.c

for.c

quix.c

mkboot.c

qux.c

typo.c

make.doc

make.tos

cb.ttp

bbsioc

chase.c

crab.h

crabdef.h

crabs.c

life.c

mount.c

neocon.c

qsort.c

fib.c

header.c

intmath.c

pointer.c

sieve.c

cc.prg

cc.doc

CTOOLS:

cbc

collect.c

collect.man

crypt.c

crypt.man

efopen.c

grep.c

hexdump.c

listf.c

pearls.c

tools.lis

tools.src

ty.c

ty.man

ucollect.c

ucollect.man

wc.c

wc.man

COOKBOOK:

cookback.c

cookback.def

cookback.h

cookback.o

cookback.rsc

cookbook.prg

recipe.dat

recipe.idx

CON'T ON PAGE 11

Atari Computer Enthusiasts

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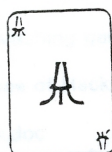
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